measurements, however, are derived from the examination of bone which has been burnt and crushed, or boiled in a Papin's digester; while those of Kölliker are taken from the direct examiuation of the osseous substance in its natural condition, and are, on that account, probably the most accurate.

In his description of the minute anatomy of the liver, the author has introduced the recent and extremely important discoveries by Dr. Beale, viz., the arrangement of the network of cell-containing tubes within the substance of the acinus, and their connection with the interlobular hepatic ducts; as well as the dilatations or glandular sacculi, seated in the coats of the biliary ducts in some of the lower animals.

The whole volume is plentifully illustrated with wood-cuts from the standard works of Lehmann, Bennett, Todd and Bowman, and the classical Microscopic Anatomy of Kölliker, and, altogether, gives a very full and complete account of the histology of the human body, so far as it is known at the present time. J. C. D.

ART. XVI.—*The Principles and Practice of Obstetrics: Including the Treatment of Chronic Inflammation of the Uterus, considered as a Frequent Cause of Abortion.* By HENRY MILLER, M. D., Professor of Obstetric Medicine in the Medical Department of the University of Louisville. With Illustrations on Wood. 8vo. pp. 620. Philadelphia: Blanchard & Lea, 1858.

ON the appearance of the original edition of Dr. Miller's obstetrical treatise, we were among the first to introduce it to public notice, and the highly favourable judgment of its merits then pronounced by us, has been fully sustained by the suffrages of the profession generally. In the new edition now before us, the entire work has been greatly enlarged and improved, so as to give it a form and a value that cannot fail to place it permanently among our standard systematic treatises on the theory and practice of obstetrics.

Without, perhaps, precisely the same elaborateness of detail and display of erudition which distinguish some of these, the work of Dr. Miller, by the clearness and distinctness with which each question embraced in it is discussed and elucidated, and the direct practical tendency of all its teachings, is one especially adapted as well for the use of the student as for consultation by the practitioner, on the spur of the moment, that he may confirm the correctness of his own conclusions, or detect their fallacy, by comparing them with those that have been arrived at from the experience and investigations of acknowledged experts.

The treatise commences with an account of the physical structure of the pelvis—its forms, regions, diameters, planes, and axes—and of the anatomy of the sexual organs of the female, and their physiological functions. To all these subjects due prominence is given, as constituting some of the most important points of that preliminary knowledge, an intimate acquaintance with which is essential to form the successful and safe obstetrician; and without a perfect familiarity with which no one should be permitted to undertake the management of a case of labour.

Dr. Miller adopts the modern view as to the menstrual discharge—that it is simply blood discharged by the vessels of the lining membrane of the

uterus, but rendered uncoagulable by becoming mixed with the acid mucus and epithelial cells of the vagina. This view is so fully established by the investigations of Donné, Whitehead, and others, that we are surprised the old notion of the menses being a specific secretion should be insisted on by so intelligent a writer as Churchill in the latest edition of his Midwifery.

The description of the pelvis, and of the female organs of generation, with their functions, is followed by a consideration of the clinical exploration of the uterus and its annexes; not merely with a view to the settlement of the question of the existence or non-existence of pregnancy, but also to determine whether any deviation or other abnormal condition of the womb or its annexes is present; extending thus the subject of the physical exploration of the female generative organs beyond the province of obstetrics, strictly speaking, into that of uterine pathology generally. How far this may be considered advisable in a treatise professedly devoted to the science and practice of midwifery may admit of question. As the author, however, has considered it necessary in a subsequent chapter, to enter at length into a consideration of the pathology and treatment of inflammation and displacement of the uterus, it was perhaps necessary that he should lay down, in the chapter before us, the physical means adapted to their detection and diagnosis.

The subject of pregnancy is next discussed. In the several sections of the chapter devoted to this important department of female physiology, the reader will meet with a clear, succinct account of the successive changes that occur in the uterus itself, and in the ovum deposited in its cavity, from the period of conception up to the full term of utero-gestation. The several questions involved in the discussion of the important phases of uterine life are examined with much ability by the author, and his conclusions in respect to each will be found to be, in general, borne out by the results of recent observations.

Speaking of the gradual development of the uterine cavity as the ovum augments in size, and of the supposed antagonism existing between the muscles of the body and those of the neck of the uterus, in consequence of which the former, it is taught, tend constantly to expel the ovum, and the latter to resist its expulsion, until the close of the term of pregnancy, when the power of the body of the uterus preponderates, and the process of parturition commences and progresses, and the child with the secundines is expelled; speaking of this theory of the forced development of the uterine cavity until finally the cervix uteri is made to take part in it, which is taught by many distinguished obstetrical authorities, Dr. Miller remarks:—

"It is manifest that the theory rests on the assumption that the uterus is naturally disposed to resist, *unguibus et rostro*, all intrusions upon its premises, an assumption so contrary to analogy that it ought not to be admitted without the clearest proof. But let us examine its pretensions in its twofold application, and *first* as affording an explanation of utorine development. Here it seeks to expound a phenomenon which is itself gratuitously assumed, namely, such a development of the cervix as enlarges the capacity of the cavity of the gravid uterus.

"According to the observations of M. Cazeaux, the neck, especially in women who have borne children, preserves the whole of its length until the last fifteen days of pregnancy, or at least until the commencement of the ninth month. He avers that he has repeatedly verified this fact, which had already been noted by Professor Stolz, of Strasburg, and publicly taught by Professor Dubois since 1839."

"In primiparæ, the cervix uteri offers some peculiarities, which, as far as our present subject is concerned, consist in its shortening somewhat, instead of preserving its usual length, throughout the greater part of pregnancy, as in

multiparæ, and in its internal orifice becoming dilated before the external. Professor Stolz explains this shortening in the following manner: At the sixth month, the vaginal portion of the neck begins to shorten, while *it widens at its superior part.* The external orifice, continuing closed, approaches the internal, and consequently the cavity of the neck becomes larger in the middle, *until the two orifices are brought near each other: the internal orifice then opens first,* which happens during the last fifteen days of pregnancy; the rest of the body disappears much more rapidly than it had done before, and a projection can no longer be felt; the external orifice remains closed."

"The observations of Professor Stolz are substantially confirmed by M. Chailly; and the entire account, which he gives of the changes that the neck undergoes during pregnancy, contradicts the hitherto received opinions of writers on the subject.

"There is one well-known fact, to which we may allude, that goes far to establish the accuracy of these reseaches of MM. Stolz, Dubois, Cazeaux, and Chailly, if it be not of itself sufficient to refute the opinion formerly entertained. It is this: When the neck of the uterus is so much developed as to allow the finger to be passed to its upper orifice, which it is by the seventh month in multiparæ, the membranes can be felt, and are organically united to the uterus around the margin of the orifice. When, again, the neck is entirely obliterated, as it is at term, the membranes can be felt, and are still attached around tho os uteri. Now, as it is admitted that during the first five or six months, the ovum is confined to the cavity of the body, and that the neck is not lined with decidua, were the obliteration of the neck owing to the expansion of its upper part, either the membranes would be too high to be reached by the finger; or, if they were sufficiently extensible to be pushed down into the expanding neck by the growing ovum, they would not be found adhering to its surface. The latter declaration is authorized by the fact that, in the progress of gestation, the membranes become less vascular, and their adhesion to the internal surface of the uterus is gradually weakened. But in either case, at the seventh or ninth month, the membranes are found to have vascular connection around the uterine orifice, for when separated by the fingor, or by uterine contractions, as in the latter case they are, so soon as labour commences, there is a slight effusion of blood. We conclude, therefore, that the neck contributes nothing to the cavity of the gravid uterus, which is made up entirely of the dilated cavity of the body." * * *

"The *secondary application* of the theory to explain the induction of labour is best met by demanding the proof that the uterus displays, during gestation, such intolerance of its burden as is attributed to it."

"There is absolutely no evidence of such contractile efforts of the uterus as this theory assumes, except the occasional tension of the membranes, sometimes observed towards the completion of gestation, the os uteri being then sufficiently open to admit the finger. Slight contractions of the fundus may produce this tension, but these are not such as constitute labour, for they are unaccompanied by pain, and take place without the consciousness of the individual herself. Allowing, however, that they are labour-pains in disguise, their presence at so advanced a period of pregnancy is no proof of their existence during the earlier periods; and in the complete absence of such proof, we are loath to admit the assumption that they do exist, because it makes the uterus the strangest anomaly in the body, if not in nature. It is destined first to contain and nourish the fœtus, and then to expel it when its maturity is acquired. But, according to this assumption, the first is an irksome task imposed upon it which it continually endeavours to quit by expelling its contents. Such a constitution of the gestative organ could hardly exist, and abortion be not perpetually threatened, without, as far as we can perceive, any compensating benefit; for we cannot imagine that its development could be promoted by it. There is, in fact, no conceivable way in which contraction of the uterine fibres during pregnancy could favour their development, except that imagined by Baudelocque, viz., one class of fibres stretching another by the superior force of their contractions by which he attempts to account for the development of the cervix uteri. How, then, are the fibres of the body of the uterus developed during the first

six or seven months of gestation, the neck being quiescent all the while? If these need no such force to aid their development, neither do those of the neck; both are developed after their own peculiar fashion, without the interference of one with the other. The neck, as we have seen, is developed in women who have borne children, in a manner inconsistent with the idea that any sort of force is exerted upon it by the body, that is, from below upwards."

"From what has now been declared, it may be inferred that I reject the notion of Levret, indorsed by Baudeloeque, and more recently by Meigs, that the neck is the antagonist of the body of the uterus, *during pregnancy,* simply for the reason that there is not a tittle of evidence that there is anything to be antagonized. The body quietly suffers itself to be distended by the product of conception, or rather its growth keeps pace with that of the ovum, whilst the neck is not at all concerned either in making room for the fœtus or barring its escape. But though the neck be not called on to exert a retentive faculty, it holds, nevertheless, the key, if I may so say, which unlocks the uterine cavity, by virtue of the relation, of which mention has been made, established between it and the body by pregnancy, in consequence of which impressions made upon it, specially upon its internal surface, are reflected upon the body and excite its muscular fibres to expulsive action. Hence the necessity of keeping the neck closed to so late a period of pregnancy, while the body is growing and expanding in every direction. That labour is naturally excited in this way, I shall endeavour to prove hereafter. The neck is not the active but the passive custodian of pregnancy; it simply withholds the key, until the time to unlock the uterus has arrived."

In respect to the placental connection between the mother and fœtus, Dr. Miller adopts the views of Weber, that a congeries of colossal capillaries intervene, into which the utero-placental arteries open, and from which the utero-placental veins arise. Against these capillaries, in which the circulation is extremely sluggish, the villi of the chorion impinge, and dive, so to speak, as they push their growth outwardly; while in such a process they necessarily become invested with a covering of the inverted membrane, forming the walls of the decidual capillaries.

As to the uses of the placenta in reference to the fœtus, Dr. Miller remarks:—

"*First: It is its organ of respiration.* The umbilical vessels, already described as terminating in capillaries upon the dendritic processes of the chorion, belong exclusively to the vascular system of the fœtus. They consist, as we have seen, of three trunks, two arteries, and one large vein—a branch of the inferior vena cava—and have no communication whatever by anastomosis with the blood-vessels of the mother. The arteries convey no inconsiderable portion of the blood of the fœtus to the placenta, which, after circulating freely and minutely through it, is returned to the fœtus, not a drop passing into the vessels of the mother. While circulating in the placenta, this blood is brought in contact with the blood of the mother, flowing through the canals of the maternal portion of the placenta, or at least nothing intervenes but the thin walls of these canals, and the delicate coats of the fœtal capillaries. The fœtal blood is thus enabled to abstract oxygen from, and impart its superfluous carbon to, the blood of the mother; and although it may be supposed that this vital operation is not as freely performed as in animals that inhale atmospheric air, it is at least as advantageous an arrangement as the branchial respiration of such as inhabit the waters, to which it is, in fact, analogous—fishes getting their oxygen from water, and the fœtus from maternal blood." * * *

"We have abundant proof that the fœtal blood is aerated in the placenta, in the consequences that arise from compression of the cord to such a degree as to arrest the circulation of the blood in its vessels. Such compression is liable to happen, during labour, when the cord prolapses before the head of the child, in vertex presentations, and also while the head is passing through the pelvis, in nates presentations; and whenever it does, death is the consequence, while

both the celerity and manner of death show clearly that it is caused by suffocation. The cord ceases to pulsate, and the fœtus, after a short convulsive struggle, evinces no further indications of life.

"*Secondly: The placenta is the organ through which the fœtus derives its nourishment from the mother.* Of this, it must be confessed, there is no *positive* evidence; but, at the same time, it may be safely affirmed that, in relation to this point, *negative* evidence is altogether satisfactory. There is absolutely no other medium through which the fœtus can obtain its supplies of alimentary matters. The only other possible source is the liquor amnii, the fluid which surrounds the fœtus; and the doctrine that this is appropriated, either by absorption or deglutition, has long since been exploded, by facts and arguments that cannot be answered, which need not be rehearsed in this place. How or in what form nutriment is received through the placenta is not known; most probably there is a set of vessels, in connection with the umbilical capillaries, which open into the maternal portion of the placenta, and, abstracting from thence the needful supplies, convey them at once into these capillaries, to be incorporated with the fœtal blood. Whether these hypothetical vessels take up blood, or only certain of its elements, we do not know; nor, as far as I can see, is it a matter of the least practical moment that we should know. Nature here, as elsewhere, is chary of her revelations that might gratify the curiosity, without adding to the resources of her votaries."

In treating of the position of the fœtus in utero, and the cause of the great preponderance of vertex presentations, Dr. Miller enters into a somewhat extended exposition of the facts which disprove the generally received mechanical explanation, that it is due to the weight of the head, compared with that of the rest of the body, at all stages of fœtal development. He adopts the views of M. Dubois, that the cause of the greater frequency of head presentations is in some manner dependent upon the vitality of the fœtus, and that the position is probably assumed and maintained by the voluntary or instinctive movements of the latter. In which views Dr. Simpson also coincides, excepting that he contends the movements on the part of the fœtus, in consequence of which its head is made to be the most dependent part, in utero, are purely of a reflex or excito-motory character.

All this, however, is but mere hypothesis. The most usual intra-uterine attitude of the child, with its limbs flexed and folded upon its body and its head dependent, shapes it, if we may be allowed the expression, into a form exactly adapted to that of the uterine cavity, while it is the one most favourable to the mechanism of labour. We may, therefore, safely conclude that it is the one impressed upon the fœtus by the same vital laws which govern everything that relates to intra-uterine gestation. The exact forces by which it is effected are beyond our ken, as well as those which occasion the frequent deviations from what may not improperly be assumed as the normal fœtal position and attitude.

The subject of abortion very naturally follows that of pregnancy. Dr. Miller denies the position of Dr. Meigs, that the hemorrhage which is the invariable concomitant of abortion proceeds from the placental surperficies of the womb, and always implies a detachment of the placenta to a greater or less extent. He maintains, and we think with great show of reason, that it is derived chiefly from the decidual vessels, probably, from both layers of the decidua, and that it may proceed from any point of the ovum or the inner surface of the uterus. He believes that in abortion the hemorrhage is often pathological rather than traumatic in its nature, the result of decidual hyperæmia—an exudation from the distended and overloaded bloodvessels of the decidua, without rupture.

"This may be inferred," he remarks, "from the fact that a sense of fulness

and weight is not unfrequently complained of previous to the eruption of blood, and also the further fact that the hemorrhage may precede the uterine contractions, and is always coeval with them, even in their incipiency, when they are too few and feeble to disturb the relations of the ovum to the internal surface of the uterus."

As to the causes of abortion, Dr. Miller, after enumerating the usual accidental causes, febrile diseases, drastic purgatives, and diseases of the ovum resulting in the death of the fœtus, concludes that, whatever influence these may have in bringing on abortion in the case of a perfectly healthy uterus, the most prolific cause of the expulsion of the ovum in the early months of pregnancy is a diseased condition of the uterus itself, particularly inflammation of the uterine mucous membrane, either of the cervix or body.

"Inflammation of the mucous membrane of the body of the uterus may, doubtless, directly excite contractions which shall expel the ovum, just as inflammation of the intestinal mucous membrane may directly excite increased peristaltic movements which shall expel the feces; but when the inflammation is limited to the cervix uteri (and this is most frequently the case), it acts as an abortive through the medium of the relation existing between the neck and body of the organ, alluded to in a previous chapter, by virtue of which impressions made upon the cervical nerves are reflected, through the spinal cord, upon the muscular fibres of the body and fundus, exciting them to contraction."

But, according to Dr. Miller, it is endo-uteritis more than inflammation of the cervix which exercises a morbid reaction on the ovum. When the mucous lining of the body of the uterus is involved in disease.

"It may be either altogether incapacitated to undergo transformation into the deciduous membrane or an imperfect metamorphosis of it may be the consequence. In the first case, abortion, and that speedily, must ensue, for the ovum cannot effect an attachment to the uterus, and may be degraded into a mole or a mass of hydatids; in the second, the disease may be communicated to the placenta and through it to the fœtus, deranging its nutrition and variously affecting its growth, so as to produce, perhaps, even monstrosities."

The series of facts and arguments adduced by Dr. Miller strongly impress his views as to the dependence of abortion, in a large number of cases at least, on inflammation of the lining membrane of the uterus, upon our attention. These views are consistent with a host of facts and observations that could easily be adduced. That they do not explain all cases of abortion not directly attributable to some accidental cause, or to diseased conditions of the system in which the uterus is only indirectly implicated, is very certain. There are cases of abortion which cannot be traceable to accidental shocks and injuries, to violence, constitutional disease, or any appreciable lesion of the uterus, either of its body or neck, and which would seem to depend upon some condition of the womb by which it is rendered intolerant of the presence of the ovum whenever the latter has arrived at a certain degree of development. At the same period, or very nearly so, of each succeeding pregnancy, we have known the ovum to be expelled, in patients in whom not a trace of uterine disease could be detected upon the most careful, thorough, and repeated examination, and who had never suffered from the slightest symptom of leucorrhœa. Whether we refer such intolerance of the uterus to abnormal irritability of the womb, or some other occult condition of the organ, it is very evidently unconnected with inflammation of the lining membrane of its body or cervix.

Dr. Miller presents a very good account of the resistive and palliative treatment of abortion, and under the head of its prophylactic treatment enters at length into the general subject of the treatment of uterine disease—of cervical inflammation, or ulceration, endo-uteritis, and uterine displacements. The

therapeutic directions for the treatment of cervical and uterine inflammation and ulceration, in which are discussed the propriety of local depletion from the affected part, cauterization of the os uteri, intra-vaginal injections, etc., with the circumstances under which each is to be employed, the proper method of employing it, and the precautions necessary to its successful management, are all marked by good sense, but differ in no important particular from those ordinarily pursued by skilful practitioners. They are deserving, however, of a careful perusal on the part of all who are called upon daily to prescribe for the diseases peculiar to the female sex.

On the subject of displacements of the uterus, Dr. Miller takes the middle ground between those who consider them as invariably the result of inflammation, and those, on the other hand, who refer them to other causes, but consider them, when produced, to be productive of inflammation; he believes that they are sometimes a sequence of inflammation and sometimes its cause.

In relation to Dr. Simpson's pessary for the rectifying of anteversion, retroversion and flexion of the uterus, Dr. Miller holds the following decided, but in our estimation, very correct language.

"This kind of mechanical contrivance for holding the uterus in its proper situation appears to me to be the most unphysiological of all others that have been proposed. The uterus, in its natural state, possesses great mobility, amounting almost to locomotion, by which it is enabled to accommodate itself to the various disturbing influences by which it is surrounded. Pressed upon by the contractions of the diaphragm and abdominal muscles, during great muscular exertions, it descends towards the vulva; pushed up during coitus, its fundus is tilted forwards and its cervix backwards, whilst considerable distension of the urinary bladder necessarily retroverts it; in a word, it readily adapts itself to its circumstances, whatever they may be. Now, to rigidly fix such an organ upon a metallic axis, and leave it no possibility of escape from the thousand impulsions which it daily receives, is to place it in a more unnatural predicament than any malposition can possibly be. The intra-uterine pessary is, however, not more unphysiological than unpathological. Rarely is inflammation altogether absent in these displacements, and sometimes it is very intense; to irritate the uterus, in such a state, by thrusting a foreign body into it to compel it to keep its place is a species of surgery which would not be tolerated in the outward parts. That some of Prof. Simpson's patients should not have been able to bear his pessary is not surprising; the wonder is that any of them could bear it, whilst it is a miracle that many of them got well."

"After all, the intra-uterine pessary fulfils its indication—albeit it performs its duty somewhat too sternly—that is, it keeps the uterus in the place allotted it by obstetric authority, with its metallic axis coincident with the axis of the pelvic brim. And this is more than I am warranted to say in favour of any other pessary that has been recommended for retroversio uteri, not even excepting Prof. Meigs' elastic annular pessary, so much lauded by him."

"If it should be inferred from the foregoing remarks that I have but a poor opinion of pessaries, the inference would be logical and just, for though I have tried all kinds of pessaries, not excepting Dr. Simpson's, I have derived but little benefit from them, whilst they have been a fruitful source of vexation to myself and of annoyance to my patients. As, however, I have admitted the validity of the indication to restore the uterus to its natural position, it may be reasonably demanded, if pessaries are unavailing or mischievous, how is the indication to be accomplished? After I had discarded pessaries in the treatment of endo-uteritis complicated with retroversion, I was led to conjoin repeated replacement of the uterus by the sound and cauterization of its cavity, whilst the organ is *in situ*, and by this method of treatment, which I may venture to call my own, have obtained more satisfactory results than by all other methods which I had previously tried."

The subject next treated of is the flooding of advanced pregnancy and in-

cipient parturition. This accident forming, as it were, "a fit connecting link between the study of pregnancy and parturition."

These floodings are invariably the result of a detachment, to a greater or less extent, of the placenta from the inner surface of the uterus; the placenta in a large proportion of cases being abnormally situated at the mouth, as it is commonly expressed, of the womb. This circumstance leads of course to a consideration of the subject of placenta prævia, it being one immediately connected with the pathology of the floodings that are liable to occur during the latter months, or at the close of pregnancy. It is true that, according to our experience, accidental hemorrhage, that is, hemorrhage resulting from a partial or entire separation of the placenta, its position being normal, is of much more frequent occurrence than that dependent upon placenta prævia, nevertheless the consideration of the latter in the present connection is, we consider, most appropriate.

To acquire a correct notion of the nature of placental presentations, it is necessary to recollect that, "during the first six months of pregnancy, the cervix uteri preserves its cylindrical figure and keeps both its orifices, but especially the superior, tightly closed; it is plain, therefore, that the placenta is implanted originally over the cervix, but attached, nevertheless, to the parietes of the inferior part of the body of the uterus. It is with the body, and the body only, that it forms an organic union by the reciprocal passage of blood-vessels between them." It is not, and in the nature of the case, never can be implanted upon the internal surface of the neck of the womb. This fact Dr. Miller has rendered perfectly clear by a course of reasoning which appears to us to be irrefutable.

The mechanism of the hemorrhage which necessarily takes place in cases of placenta prævia is explained by Dr. M. from the development of the uterine parietes occurring more rapidly than the placenta can follow, causing, therefore, a separation of the maternal from the fœtal tissue, with rupture of the connecting vessels.

From various considerations, but more especially from the analogy of uterine hemorrhage often occurring under other circumstances of parturition, particularly *post partem*, where the placenta is wholly separated and expelled, Dr. Miller concludes that the great source of the hemorrhage, in cases of placenta prævia, and in other cases of partial and entire detachment of the placenta in the latter months of pregnancy, is the placental surface of the uterus itself.

Besides the unavoidable cause of hemorrhage in cases of placenta prævia, other causes that may operate to excite hemorrhage during advanced pregnancy are referred to by the author; the most frequent of these is perhaps

"Mechanical violence of any kind, such as falls, blows, &c., sufficiently violent to produce detachment of the placenta from its normal connections. Probably, also, an excited state of the circulation, especially in plethoric habits, may suffice, in some instances, to bring about the same disastrous result. Irritation of the intestinal canal, whether induced by disease or the operation of drastic purgatives, exciting tenesmus and violent straining efforts, may also be reckoned among the causes of uterine hemorrhage."

We have given merely a bare outline of the leading views of Dr. Miller on this important subject of flooding—accidental and unavoidable—occurring in the pregnant female; for a full exposition of those views, which certainly demand a candid examination, and of the considerations upon which they are based, we refer to the work itself. The chapter devoted to the consideration of the subject of flooding, will amply repay the time devoted to its attentive study.

A very full and instructive accounnt is given of the symptoms, diagnosis, course, and termination of flooding. In respect to treatment: in cases of accidental hemorrhage, Dr. Miller advocates the plan pursued by Puzos, a description of which, as it would appear not to be generally understood, we here present in the translation furnished us by our author.

"The means of remedying this slowness of natural delivery, is to borrow something from forced delivery, which, I am satisfied from experience, is entirely practicable—namely, to increase the dilatation of the os uteri with the fingers, in the same gentle manner in which nature is wont to proceed. It is seldom that the loss of blood, produced by the detachment of the placenta, does not occasion more or less dilatation of the uterine orifice, the coagula about it acting as so many wedges, that distend it and dispose it to yield. This incipient dilatation has a tendency to bring on labour, and is sometimes accompanied by slight pains. But, inasmuch as the exhaustion and faintness arising from the loss of blood are opposed to the continuance of the uterine contractions, we must renew these when wanting, and increase them when too feeble. With this view, one or two fingers must be introduced within the os uteri, which is to be gradually opened by the employment of force proportioned to its resistance. These dilating efforts should be suspended from time to time, to allow intervals of rest. By this means, the uterus is roused to action, labor pains come on, and the membranes are rendered tense. The next object is to rupture the membranes without delay, to give escape to the liquor amnii, and bring about a diminution in the size of the uterus equal to the space the waters had occupied. The condensation of the uterus, that succeeds the discharge of the liquor amnii, presses the fœtus upon the os uteri, when stronger pains ensue, which, aided by the pressure of the fingers around the margins of the orifice, succeed in advancing the child. Meanwhile, the blood that would otherwise have escaped, is retained in the vessels by the contraction of the uterine fibres, and the compression to which they are subjected. By this co-operation of nature and art, the delivery is greatly expedited, and we may enjoy the satisfaction of saving both mother and child, who must have been lost if left to nature alone, and might have been destroyed by artificial delivery."

In cases of unavoidable flooding, from partial presentation of the placenta, experience, Dr. Miller assures us, has equally declared in favour of the efficacy of Puzos' plan of management. Where the placenta is implanted centrally over the mouth of the womb, some modification of the plan is, however, demanded. In these cases Dr. M. is opposed to the artificial separation of the placenta from its attachments, as proposed by Simpson and strongly advocated by others. He enters into a long chain of reasoning to show that whether considered in a scientific point of view, or tested by the results of the practice, so far as these have been made known, it does not present such strong claims as to warrant its being generally pursued. He is equally adverse in vertex presentations, in view of the unfavourable results that are so frequently observed in the cases in which it has been practised, to a resort to turning and delivery by the feet. The plan he ventures to propose is a modification of that of Puzos. This consists in "originating expulsive contraction of the uterus by the tampon or plug, and then puncturing the membranes, relying on the tampon to control the flooding until the liquor amnii is evacuated."

"This," he remarks, "is the only method of treatment of which I have any experience, and I have employed it with uniform success, so far as the mother is concerned. This is strong testimony, but it must be mollified by the confession that my experience, in placenta prævia cases, has not been large; yet I have encountered them sufficiently often to have acquired some acquaintanceship.

"To expound this method of treatment and at the same time vindicate it, it must be observed that the tampon is preferable to manual dilatation, as an oxytocic, in placental presentations, because forced dilation could not be prac-

tised without necessarily still further detaching the placenta, giving rise to additional hemorrhage, all the more profuse on account of the non-parturient state of the uterus. Then, again, such manipulations would be objectionable because of the greatly more vascular and sensitive condition of the portion of the uterus contiguous to the os, which has been already mentioned as a reason why delivery by turning ought to be refrained from.

"In arousing the uterus to expulsive contraction, the tampon acts, I suppose, through the channel that has been more than once indicated in the previous pages of this work, viz: irritation of the incident nerves of the cervix, leading to reflex action of the fibres of the fundus and body. Explain as we will, however, the fact is generally admitted that the tampon is competent to excite uterine contraction and bring on labour. Should it fail (and what may not?) it may be reinforced by the puncture of the placenta, as recommended by M. Gendrin, which, considered merely as a means of bringing on labour, is excellent and wholly unexceptionable, and it will be observed that I am not, just now, speaking of the restrainment of hemorrhage, but of the excitement of labour. No case can occur, I think, in which the tampon, aided, if necessary, by puncture of the placenta, will fail to bring on labour, in a longer or shorter time, and where the tampon alone is sufficient, and labour is regularly established by its instrumentality, either the placenta must be punctured to evacuate the liquor amnii, or the finger must be pushed up beyond its margin to rupture the membranes during a uterine pain. I have myself usually practised the latter alternative, and always felt that my patient was safe when advanced thus far on the road to recovery.

"The supervention of labour—the evacuation of the liquor amnii—these, in their order, are the great bulwarks of a flooding woman, no matter where the placenta is implanted. It is a maxim in obstetrics that a *contracted* uterus cannot bleed; it might, I think, be amended and enlarged by adding that neither can a *contracting* uterus bleed when it is emptied of its waters—or at any rate, if it bleed, the hemorrhage is no longer dangerous.

"Notwithstanding that the tampon may be generally depended on to restrain hemorrhage, it is certainly possible that it might disappoint our expectations, and then the evacuation of the amniotic fluid by placental puncture may be had recourse to, as an auxiliary, on the authority of M. Gendrin. Should this fail, and the hemorrhage threaten to destroy the mother ere uterine contraction can be excited, there can be no doubt of the propriety of separating and extracting the placenta, according to the letter of Dr. Simpson's proposal, viz: solely with a view to the safety of the mother, losing sight of the child, whose interests are altogether subordinate. Such a procedure excludes, of course, delivery by turning, by which, as it has been shown, many maternal lives have been sacrificed that might have been saved, had the expulsion of the child been left to nature."

The subject of labour is next considered. We do not intend to follow the author in his very excellent examination of the efficient and determinative causes of labour, and the forces which co-operate in the expulsion of the contents of the gravid uterus. The entire chapter devoted to this branch of obstetrical physiology is replete with interesting views which demand a favourable consideration, and which, whether received throughout as established truths, or as merely plausible hypotheses, cannot fail to point the road to a more correct and intimate acquaintance with the subject.

Dr. Miller teaches that the real cause of the occurrence of labour at the completion of uterine and fœtal development, is that suggested by Dr. John Powers, the irritation, namely, of the cervix, and especially of the os uteri, arising from the contact, which then takes place, of the ovum with the latter. This he supposes to be proved, 1st, by the peculiar manner in which the uterine neck is unfolded during pregnancy, and 2dly, by the fact that the rectum and bladder are both excited to expel their contents by irritation of their orifices. The objections that have been made to this theory are candidly

examined, and, with much apparent plausibility, refuted. To understand the real value of the cause assigned by Dr. M. for the inception of labour, regard must be constantly had to the true relationship of the condition of the neck of the uterus to that of its body at the different stages of pregnancy.

The phenomena of labour are the subject of the following chapter. They are clearly and fully detailed in the order of their occurrence.

In regard to the utility of the membranes, or pouch of waters, as it has been termed, both before and after the protrusion of a portion of the pouch at the uterine orifice, as a means of promoting the expansion of the os uteri and facilitating the progress of labour, Dr. M. makes the following sensible remarks. There is, it is true, nothing especially novel in them, corresponding as they do with the experience of nearly all skilful and observant practitioners. It may not, however, be improper to call attention to them on the part of the younger members of the obstetrical corps, inasmuch as their validity has been denied, and there are even some who incorrectly suppose that the premature rupture of the membranes and discharge of the waters will not tend to retard labour, or render it more painful. Some have even pretended that their early rupture will often facilitate and shorten it. That these latter positions are incorrect, Dr. Miller believes is shown by the following considerations:—

"*First.* The integrity of the membranes before the pouch is formed is valuable, because the propelling force has then a more suitable medium wherewith to act on the cervix than any part of the fœtus would be. This medium is the waters inclosed by the membranes, which, adapting themselves to the shape and inequalities of the cervix, make more equable pressure on its fibres, and consequently subdue their resistance more equally; whereas any part of the child that can present is not so well adapted to distend the cervix equally, and hence, while some of its fibres may be benumbed by pressure, others are not conquered, but provoked to inordinate resistance, thus retarding labour by the irregular contraction which is excited.

"*Secondly.* The integrity of the membranes, after the pouch is formed, is beneficial until the dilatation of the os uteri is considerably advanced, if not completed; because the pouch, though it does not cleave like a wedge, opens the portals for the egress of the child in the gentlest manner. Should it rupture before the orifice is prepared to allow the presenting part of the child to take its place, the ruder contact that ensues not unfrequently irritates the cervix to a renewal of its opposition, and labour is thus protracted and rendered more painful.

"*Thirdly.* The pouch serves, by its presence in the uterine orifice, the most sensitive portion of the neck, to sustain and enliven the propelling contractions, upon the principle of orificial irritation. By its agency, these contractions are, in proper time, rendered truly *expulsive*, and the auxiliary forces of the diaphragm and abdominal muscles called into action. When the pouch ruptures, the presenting part of the child takes its place, and keeps up the requisite grade of irritation until the labour is completed. That this is no fancy sketch, the phenomena of shoulder presentations will abundantly prove. In these cases, the membranes frequently protrude in the form of a long, cylindrical purse, which inadequately stimulates the os uteri, and consequently the pains are feeble for an unusual length of time; and when at length they rupture, if the shoulder is not ready to occupy the orifice, as often happens, there is *an entire suspension of the pains for several hours.*"

In proceeding to a consideration of the mechanism of labour, the several presentations and positions of the fœtus in utero are first described. The classification of these as adopted by Dugès, is the one followed by Dr. Miller. The mechanism of labour in each of these is separately discussed. To the subject all that extension is given which its importance demands. With-

out a clear conception of the manner in which the fœtus, in each case, is transmitted through the pelvis, the course it takes, and the successive changes which occur in the condition and direction of the presenting part, as it is gradually propelled from the womb into the world, no one is competent to conduct properly and safely the most simple and easy case of parturition, much less to act promptly and efficiently in cases attended with delay or difficulty, or in which manual or instrumental interference is required to insure the safety of the mother or child, or both.

In the chapter devoted to this subject the views and explanations of the most authoritative masters in midwifery are laid down, but not implicitly followed. Dr. Miller has had the courage to examine and judge for himself, and to express his own conclusions, however these may differ from those of others. His explanatory and critical remarks appended to the account given of the mechanism of labour in each presentation are marked by much good sense. We have perused them with both pleasure and profit.

In the ensuing chapter on the diagnosis and prognosis of labour, a very good account is given of the means of ascertaining whether labour has actually commenced or not, and, when it is found that labour has actually set in, the manner in which the presentation and position of the child are to be determined, with some very judicious remarks on the prognosis of labour generally, and in each of the several presentations and positions.

It is very certain that in respect to the prognosis of labour, considered as to its probable duration, its favourable termination if left to the powers of nature, and the necessity for instrumental interference, there can be but few positive rules laid down that will admit of universal application. From close observation, the experienced practitioner acquires a certain tact by which he is able to form in each case of labour a very accurate judgment of its probable course, and to infer its favourable or unfavourable termination if left to itself. But this tact can scarcely be taught by books or oral instruction: it must be acquired from clinical experience, and from that only by such as have made themselves intimately acquainted with the form, structure, planes, axes, and normal dimensions of the pelvis, the anatomy and admeasurements of the fœtus in utero, and the physiology and mechanism of labour according to the presentation and position of the child, as well as with all those causes that may increase the pain of parturition, retard or arrest its progress, and the particular dangers incurred by mother or child, or both in cases of tedious, difficult, and obstructed labour. It is true that there are many cases in which the danger of trusting the accomplishment of delivery to the unaided powers of the uterus, or the impossibility of the birth of the child without manual or instrumental assistance, can be determined with almost positive certainty. The general rules by which the diagnosis and prognosis of such cases are governed are clear and explicit; ignorance of them would be highly culpable in any practitioner of midwifery.

The retarding and impeding causes of labour as they present themselves in its different stages are treated of by Dr. M. in his chapter on the management of labour. They are, in the first stage, obliquity of the uterus; the inefficient or impeded action of the organ; rigidity of the os uteri; and, in the second stage, inefficient and impotent action of the uterus.

In cases of obliquity of the uterus, Dr. M. insists upon the importance of restoring the os uteri to its natural position.

"This," he teaches, "may generally be effected by regulating the posture of the patient, enjoining her to lie on the side opposite that towards which the fundus inclines." When anterior obliquity exists, in a great degree, a properly

adjusted bandage around the abdomen will materially contribute towards restoring the uterus to its natural situation.

"Should strict attention to posture, continued for a reasonable time, fail to correct the obliquity, and the labour in the meanwhile make but tardy progress, it is proper *to hook the os uteri by inserting the extremity of the finger within its orifice*, and draw it towards the centre of the pelvis, in the intervals of the pains. When a pain comes on, its tendency to relapse to its former position is to be resisted, with as much force as can be safely employed. If this tendency is too powerful to be resisted, the finger must yield to it; but, as soon as the pain ceases, bring back the os uteri to the centre, and again endeavour to maintain it there during the next pain. By cautiously and gently, but perseveringly, acting thus, the os uteri will, after a succession of centripetal and centrifugal movements, be restored to its proper place, and, the parturient forces having been brought to bear upon it, its dilatation will be effected as speedily as in ordinary cases."

"In deliberating upon the propriety of artificial aid, in cases of obliquity of the uterus," Dr. M. believes that, "the ability of nature ultimately to overcome the difficulties which they offer, should not be taken into consideration. The primary question is, can obliquity seriously retard labour? and this has been answered in the affirmative, even by Dr. Hunter, in his commendation of *patience*, but less equivocally by Dr. Denman and others of the same sect. Obliquity ought, then, to be remedied in all cases, when it unduly protracts the first stage of labour, if the principles of Dr. Hamilton should govern our conduct. Labours, rendered tedious from this cause, may undoubtedly hobble to their end, even to the expulsion of the fœtus in some way—nevertheless all the mischiefs that grow out of delay, are justly chargeable to the obliquity, and might have been averted, had it been remedied." * * *

Awkward and *unskilful* attempts at rectification of the obliquity may, Dr. M. admits, produce inflammation of the uterus, but this, he remarks, is chargeable to the *operator*, not to the *operation*, which need not cause pain, much less any such serious consequences. "For my own part," he adds, "I can safely declare that no mischievous effects of any kind have ever resulted, in my practice, from such tractions upon the os uteri as have been recommended, and the testimony of Dr. Dewees is equally decisive in regard to their safety and efficacy. Nay, this eminent practitioner deemed them of so much importance as to advise the introduction of the entire hand, well lubricated, into the vagina, in order to get hold of the os uteri with the finger, when it cannot be reached by a well-directed search in the ordinary way; and, under the circumstances that he has specified, I should not hesitate to follow his advice, although I have not as yet had occasion to do it."

In cases of inefficient action of the uterus the proper course, according to Dr. M., is, if any morbid state of the system can be reasonably assigned as its cause, to correct it; if the pulse is full and strong, blood should be abstracted; if the bowels are confined, they ought to be relieved by an enema, or a dose of castor oil. But if these means fail, or not being indicated, are not resorted to, the proper remedy is, *irritation of the uterine orifice by means of the finger, for the purpose of exciting more efficient contractions of the organ.*

After describing the mode of effecting this irritation, he remarks:—

"Speaking from abundant experience, I can truly say that it is equally surprising and gratifying to observe the prompt effects of this manipulation, in many cases of the kind under consideration. Not unfrequently, a few movements of the finger are sufficient to impart such energy and aim to the uterine contractions, that the waters begin to gather, as the phrase is, and cause the membranes to protrude."

Dr. M. states that he has been in the habit for many years of employing, under the circumstances indicated, the manipulations he has described, and in the great number of cases in which they have been practised no evil consequences whatever have resulted, but labour has been greatly assisted, and

many accidents, as he is firmly persuaded, have been averted, which would otherwise have happened from its undue protraction.

The chief course of impeded action of the uterus during the first stage of labour is, according to our author, premature rupture of the membranes. In the treatment of tedious labour resulting from this accident, he recommends if the os uteri be hot, tender to the touch, and rigid as well as tumid, the free detraction of blood. He believes, however, that the judicious employment of the fingers in aid of the uterine contractions is much more frequently indicated, and is often the only thing that can be done to assist the patient.

"The fingers are *not* to be used," he observes, "to excite uterine contractions (for they are already too strong), nor to stretch the os uteri, but *to press upon its margin*, during the pains, in order that their counter pressure may keep it in as firm contact with the head as the rest of the cervix, and the orifice be thus brought within the pale of the dilating influence of the uterine contractions. Both Hamilton and Gooch highly recommend this practice, but their object is to *push up* the edge of the orifice over the head of the child; to liberate the band of the cervix, supposed to be incarcerated—a condition which, if it really existed, could scarcely be reached by such a procedure."

In cases of rigidity of the os uteri, Dr. M. recommends copious bloodletting, opiate enemata, the administration of tartarized antimony, the local application of extract of belladonna or of stramonium to the os uteri, tepid baths and demi baths. Should all of these means fail, or but partially succeed in overcoming the rigidity of the os uteri, and the cervix descend in advance of the head of the child, it is necessary, he remarks, to raise and support the os uteri.

"As this is a measure of considerable importance, I shall endeavour," says Dr. M., "to explain how it is to be practised. The index finger is to be applied just underneath the anterior lip of the os uteri, and with its edge or palmar surface pressure is to be made, in the intervals of the pains, so as to push up the os uteri as high as possible, or the extremities of *two or three of the fingers may be used* in the same way. When a pain comes on, the tendency to descent is to be resisted, unless this be so strong as to require more force than it would be prudent to employ; in that case, the finger must gradually relax its counter-pressure and allow the descent to take place. But as soon as the pain goes off, the os uteri is to be pushed up again, and its descent is again to be resisted during the next pain. In this manner, acting with gentleness and caution, but, at the same time, with firmness and perseverance, the os uteri must be supported until it is sufficiently dilated to allow the head to execute its rotatory movement, and emerge from under the symphysis pubis.

"The principle upon which this manœuvre acts does not appear to have been well understood, even by those who have practised it. The support given to the os uteri prevents it from prolapsing, to be *backed*, if the expression will be allowed, by the floor of the pelvis, and places it in a position that will permit a portion of the head to become insinuated within it during a pain. The finger is not used to stretch the os uteri, as many writers direct, but to hold it up that it may be dilated by the head, which can then be pushed, by the uterine contractions, lower than the level at which the os uteri is held. The head dilates the os uteri far better than the finger could, because it acts upon the whole extent of the cervix, whereas the finger could act only on the circle of the os uteri."

In the second stage of labour, it is a fixed rule of practice with Dr. M. in all cases, without exception, to rupture the membranes, when, the dilatation of the os uteri being completed, the pains become expulsive, or even in the absence of expulsive pains with a view to excite them. The rule we think a good one.

It is in this stage that Dr. M. considers the production of anæsthesia by the inhalation of chloroform to be a boon of inestimable value to the partu-

rient female by annihilating the pangs of childbirth, and thus removing the "certain fearful looking for" of its ordeal, by which the parturient female is so liable to be tormented.

"I have been in the habit," he says, "of employing etherization in my obstetric practice, for nearly ten years, in natural as well as in difficult labours, and during that period, must have given it in several hundreds of cases, and I am not aware that mischievous effects have followed in a single instance. I have occasionally known it to diminish the energy of the uterine contractions and lengthen the intervals between them, to such a degree as to make it expedient to suspend its use for a time, or altogether to discontinue it. But in these exceptional cases, no harm resulted, and when the anæsthesia passed off —which it did in a short time—the labour resumed its course and progressed as though it had suffered no interruption."

"The relief afforded by etherization is not confined," he adds, "to the parturient state; it extends also to the puerperal state. I have often been struck with the remark, spontaneously made by patients who had been previously delivered without the benefit of chloroform, that they felt very much better than after their former confinements, having little or none of the muscular soreness and stiffness, or the fatigue and exhaustion which before they were accustomed to feel—and I think I may safely say that their convalescence is altogether better."

Dr. Miller very properly presents in strong relief the dangerous consequences that almost invariably happen to the child as well as to the mother by the imprudent administration of ergot to overcome the inefficient action of the uterus that may occur during the second stage of labour. There can be no doubt that, provided the os uteri is dilated, the vagina and vulva relaxed and moist, the presentation natural or such as to offer no great impediment to the birth of the child, that it is the vertex, face, or nates that presents, and there is no disproportion between the presenting part and the pelvis—ergot, judiciously administered, will seldom fail to excite powerful uterine contractions by which the child will be promptly expelled. But if all these conditions for a prompt termination of the labour are not present, it is very certain that the powerful and continued contractions of the uterus produced by the ergot, may prove destructive to child or mother, or both.

As it is not always an easy matter to decide confidently that all the conditions exist, which justify the exhibition of ergot, whenever there is a doubt upon this point, ergot should be withheld, while, according to Dr. M., the same manipulations that are recommended by him in cases of inefficient action of the uterus in the first stage of labour, may be had recourse to, and with marked effect.

In forming our opinion as to the necessity of artificial delivery in cases of impotent action or inertia of the uterus, occurring from exhaustion, the result of the long-continuance or severity of the parturient efforts, Dr. M. very correctly remarks that our attention should be directed to the evidences of uterine impotency; in proportion as these thicken, the necessity of delivery becomes more and more urgent.

"It is not wise to wait until the urgency is extreme; and, in general, the earlier the woman is relieved by delivery the better, provided this can be done with facility and safety. Suppose, for example, the head of the child is presenting and has ceased to advance, while the uterus has evidently become impotent; suppose, moreover, this head is within easy reach of the forceps, and can be delivered without risk or additional pain to the mother—what would be the use of waiting until we are driven to the operation? But if delivery be not so easily and safely practicable, prudence requires that it should be deferred until the necessity of it is more pressing—so pressing that, in our judg-

ment, it is better to incur whatever risk the operation may involve, than wait longer."

The remaining chapters of the treatise are devoted chiefly to an account of instrumental delivery. The teachings of the author on this most important branch of practical obstetrics are, in the main, sound and judicious, while his directions are clear, simple, and precise, and well calculated, so far as it is possible by printed instructions, illustrated by well executed engravings, to point out, in the several cases and conditions in which instrumental aid is required to terminate labour, the manner in which that aid is to be applied—in a word, the proper application and management of instruments for the delivery of the child in each presentation and position.

Under the head of delivery by the crotchet, or craniotomy, Dr. Miller discusses the question as to the necessity of promptly relieving the uterus of its contents upon the occurrence of puerperal convulsions. He admits that, in these cases, bloodletting early performed is of great value, indeed indispensable, as a means of protecting important vital organs, particularly the brain, against the dangerous congestions which are consequent upon the convulsions, as evinced by the swollen veins and turgid features during the paroxysms, but he insists, and very properly, that it is futile as a means of arresting the convulsions. He consequently condemns the lavish waste of blood by large and repeated bleedings, which have been deemed, by many, essential, in cases of puerperal convulsions, to the safety of the patient, as not only useless but absolutely mischievous.

Having depleted to an extent sufficient to put the bloodvessels in the best possible state to bear the stress laid upon them by the successive convulsive paroxysms, which should be done as early as possible, Dr. M. believes that the lancet has performed all that it can do, and we must look to other means to insure the safety of the patient. The most important and imperative of these means, according to Dr. M., is the prompt delivery of the child. So important does he consider this measure to be, that he believes it is the positive duty of the obstetrician in cases in which the forceps cannot be applied, from the early period after the setting in of labour at which the convulsions occur, to deliver by craniotomy, whether we have complete assurance or not of the death of the child.

"For this operation," he remarks, "it is not necessary that the os uteri should be so largely dilated as for delivery by the forceps, or even by turning the child, and hence it enables us to evacuate the uterus, and abrogate the cause that sustains the convulsions many hours earlier than it would be possible to apply the forceps.

"It is not recommended," he adds, "to have recourse to craniotomy in every case of parturient convulsions so soon as the operation is practicable. Not so; for it may be that there is no such urgent and instant necessity as to justify the operation. But if it be otherwise, and there are just grounds for our worst apprehensions, whilst, from the tedious manner in which the dilatation of the os uteri is going on, it is wholly uncertain how long we must wait before delivery can be accomplished by the forceps, then the perforator should be used, even if the child be alive."

Now, we candidly confess that we are not so well convinced, that, in any case of puerperal convulsions, the necessity for prompt delivery is ever so imperative as to justify the sacrifice of the unborn child for its accomplishment. It is very certain that by etherizing the patient, the convulsive paroxysms may be so completely controlled as to allow, in perfectly natural labours, sufficient time for the birth of the child to be accomplished by the unaided powers of the uterus alone; sufficient time, certainly to permit at least, the

os uteri to become so far dilated and relaxed as to allow of the application of the forceps, and that without augmenting the danger of the mother.

In regard to turning, so as to deliver by the feet, Dr. M., in view of the many dangers both immediate or remote, which the operation, however skilfully and cautiously it may be performed, entails upon the mother, more than doubts its eligibility, under any other circumstances than that of shoulder-presentation, and he is strongly impressed with the belief that it ought to be strictly confined to such cases.

"The object of it then," he remarks, "would be to correct such an aberration of the axis of the child's body, as precludes delivery; not to see-saw this axis, according to our whims or crude notions, and bring one of its extremities or the other to the os uteri, as best suits our fancy, as if to run our hand up to the fundus of the uterus, and gyrate the child in its cavity, were to be reckoned among the pastimes of obstetricy."

Dr. Miller is not strictly justifiable, we think, in absolutely restricting the operation of turning to cases of shoulder-presentation; we, nevertheless, admit that it is far too dangerous a procedure to warrant any one having recourse to it in any instance in which delivery may be safely accomplished by other less objectionable means.

Cephalic version, Dr. M. believes to be applicable to but a limited number of cases of shoulder-presentation, when "the labour is in its first stage—the os uteri being barely dilated, the membranes whole or recently ruptured, the uterine contractions not very powerful or decidedly expulsive, and the shoulder has not become impacted in the pelvis." He gives credit to Dr. Wright, of Ohio, for having given the best and most precise description of the operative manœuvre for the accomplishment of cephalic version in cases where it is possible to effect it. It justifies, he thinks, the claim of that gentleman, if not to originality, at least to the credit of having more clearly apprehended the object to be attained, and of more perspicuously pointing to the proper method of attaining it.

The general conclusions of Dr. Miller in regard to the comparative merits of the two plans of version—cephalic and podalic—are as follows:—

"1. That in simple cases of shoulder presentation, either cephalic or podalic version may be practised, the former being preferable (provided it can be accomplished) on account of the greater probability of saving the child.

"2. That, whilst cephalic version is not absolutely impracticable, in complex and even in complicated cases of shoulder-presentation, it is more difficult of performance and fully as dangerous, both to the mother and child, as podalic version, in one or another of its forms.

"But granting, for the argument's sake, that cephalic version is, in its ultimate results, as eligible as podalic version, still I should contend that in complex, much more in complicated cases, it ought never to be had recourse to, because the sufferings of the patient are uselessly protracted by it. Even if there be not exhaustion of the uterus, it is impossible to know beforehand, in any such case, whether the child will be expelled by the natural powers or require to be delivered by instruments, thus subjecting the patient to the combined hazard of manual and instrumental delivery.

"To me it seems that cephalic version, under the circumstances we are now considering, is an *unfinished* operation. The patient is made to endure all the pain and incur all the risk of manual delivery, for the sake of having the head of the child placed where it may be expelled by a second course of labour as severe and, perhaps, as prolonged as the first might have been, had the head originally presented instead of the shoulder.

"When a woman has been long in labour, the uterus striving in vain to expel the child under a shoulder presentation, the necessities of her condition

will not admit of any temporizing expedients or halfway measures; she needs to be delivered, and turning by the feet alone can give us that dominion over the labour, which is salutary alike for the mother and the child."

In the second section of Chapter XVI. will be found some excellent directions for the management of asphyxia in new-born infants—as to the proper procedure in cases of retention of the placenta from either atony of the uterus, hour-glass contraction, or morbid adhesion; and, finally, as to the treatment of flooding occurring subsequent to delivery. On this latter subject, the author's views and directions are particularly sound, and cannot be too strongly impressed on the mind of the young practitioner.

Two means usually resorted to for the control of *post-partum* flooding are held in very slight esteem by Dr. M.: we allude to ergot and the tampon. Of the first he remarks:—

"There is no harm in giving the article, provided we put no trust in it. I mean to say that ergot might possibly do good; but that its operation is too precarious to justify any one in relying on it, to the neglect of the more certain resources which have been pointed out."

We should be sorry to inculcate any positive reliance on any one means for the control of the hemorrhage from the womb occurring subsequent to parturition, but we must insist upon the very important aid afforded by ergot in most of those cases where, after delivery, an undue discharge of blood is threatened or has actually commenced. We know of nothing which will so generally excite, and with the same promptness, that complete and permanent contraction of the womb on which alone in these cases the safety of the patient depends. We say nothing of the beneficial influence of the hæmostatic powers of the ergot, which are very far from being either problematical or inconsiderable. It is its specific properties as an exciter of uterine contraction mainly that recommends it as a remedy in *post-partum* flooding. So important a remedy do we consider it in this form of uterine hemorrhage, that we believe it should be early administered in every case in which we apprehend the occurrence of the accident.

In regard to the tampon, Dr. Miller remarks:—

"To attempt to control hemorrhage from an empty and flaccid uterus, by plugging the vagina, is highly hazardous. We may, it is true, prevent the issue of blood by this expedient, but we can have no assurance that it will not continue to pour from the vessels and collect in the uterine cavity, until life is exhausted. It is better to contend with an open than a lurking enemy; for though we are fully able to cope with him, we might be circumvented by his wiles. Let the blood, then, have an unobstructed channel; we can, the more clearly, discern our patient's danger—which it is folly to hide from our eyes—and shall be incited to more earnest efforts to save her from impending death."

There is much truth in the foregoing remarks. The tampon is certainly useless in cases of flooding after labour. Until the cause of the hemorrhage—the flaccid state of the uterus—is removed, all attempts to control the external discharge of the blood are worse than absurd. Until the full and permanent contraction of the organ has taken place the female is in imminent danger, and should not be left by the accoucheur.

In the preparation of the treatise before us, while Dr. Miller has borrowed largely from the standard authorities on the theory and practice of obstetrics, he has not implicitly followed any master, even though by common suffrage he may be ranked among the most authoritative; but, observing, reasoning, and judging for himself, he has infused into the work so much of his own mind, that it may lay very legitimate claims to a certain character of originality

which press it strongly upon the attention of the medical profession of the United States. In our examination of its several chapters we have met with much more to approve than to condemn—far more in relation to obstetrical principles and practical precepts and procedure to which we can cordially assent, than of which we have been obliged to doubt or absolutely deny the correctness.

The arrangement adopted by Dr. M. in the present treatise is somewhat different from that pursued in most of the standard works on the same subject. In some respects it has unquestionably its advantages, but we are not so certain that it is the one best adapted for a systematic treatise on obstetrics intended for the use of students.

The style of the work is throughout simple, clear, and sufficiently correct, though occasionally marred by colloquial expressions which neither give force to the author's meaning nor impressiveness to his practical directions.

Dr. Miller admits that he has not attempted to introduce into his pages "every topic, both large and small, that belongs to obstetrics;" still, in a work professedly aiming "to present, in as condensed a form as possible, an exposition of the cardinal principles of obstetrics, considered as a science and an art," we should certainly have expected to meet with an account of the management of twin cases, and of rupture of the uterus, and some notice at least of the important question as to the propriety of the induction of premature labour in those cases in which, from deformity of the pelvis, delivery at the full term is rendered impossible without the destruction of the child. Besides these omissions, we notice, also, the omission of any account of the circumstances which will warrant or imperatively demand a resort to the use of instruments in cases of labour. Some of these circumstances are, it is true, incidentally alluded to in the course of the treatise, but nowhere are all of them indicated with that fulness of detail which would seem to be demanded by the importance of the subject, the different opinions on many points connected with it entertained by distinguished obstetricians, and the serious mistakes that are every day made by practitioners, in consequence of the erroneous views they have formed in respect to it.

Without some notice of the several topics just alluded to, no treatise can be properly considered as embracing an exposition of "the cardinal principles" of obstetrics as a science and an art. We admit that full accounts of them all may be found in other works; nevertheless, one having similar pretensions to the character of a systematic treatise on "the principles and practice" of midwifery must be considered incomplete without them. There is as much necessity for their introduction as for that of the anatomical description of the pelvis and female organs of generation, and their obstetrical relations, which the author admits he has borrowed from the work of M. Dubois, and very properly, inasmuch as he there found so good a description that he was in some measure compelled to follow it in his desire to give a correct account of these subjects considered in an anatomical and obstetrical point of view.

Whatever, however, may be the faults of omission or commission in the work of Dr. Miller, it must, nevertheless, be pronounced a most able one, conferring the utmost credit upon its author, and fully entitled to that favourable reception we are well convinced it will receive on the part of the American medical profession. D. F. C.